



# Do you wash or rinse vehicles or equipment at your facility?

## Would you like to improve this process in the following areas?

- **Meet environmental compliance regulations.** Reduce water use, surface runoff, and wastewater disposal. Media areas are water and wastewater.
- **Improve workers' safety and health.** No change from current operations.
- **Increase productivity.** No change from current operations.
- **Save money.** Reduce water and wastewater utility costs.



Water Nozzles

*Installation of spray nozzles on water hoses used for washing and/or rinsing equipment at Navy installations can be a potentially significant water conservation measure. It can help prevent adverse environmental impact to the surrounding area through reduction in water withdrawal from lakes, streams, or aquifers. Washing vehicles or equipment with a standard garden hose, whether at a public works station or in a residential driveway, is one of the most common (and overlooked) practices that result in large quantities of wasted water. A typical garden hose provides water at a rate between 10 and 15 gallons per minute (gpm). Spray nozzles can reduce this flow to 4 gpm. For a car wash lasting around 20 minutes, using a spray nozzle can save approximately 200 gallons of water for every vehicle washed! A recent water survey at a Navy activity revealed that potential savings of over 900,000 gallons per year could be achieved if nozzles were installed throughout the base. At another activity, installation of spray nozzles at the marina boat washing facility could potentially save over 300,000 gallons a year - the equivalent water used for 12,000 showers! This equipment is available as commercial off-the-shelf items from a variety of suppliers.*

## How can you achieve these improvements?

Install water nozzles on all hoses used for washing and/or rinsing equipment.

## How does this system work?

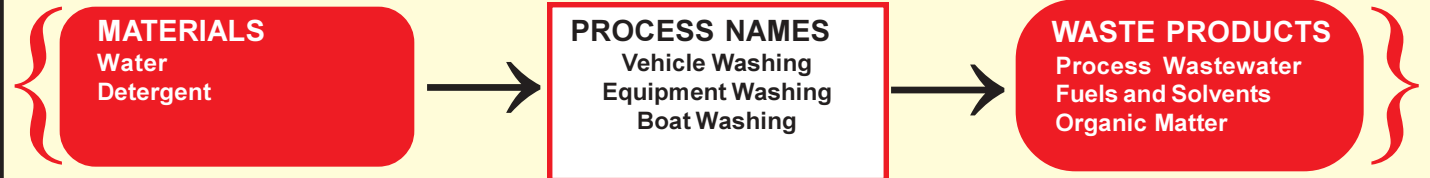
Water nozzles will reduce the amount of flow from a typical hose application (10-15 gpm) to around 4 gpm while increasing rinsing/cleaning pressure.

## How will this system save you money?

Reduced water usage will reduce both water and wastewater utility costs. Where effluent from the wash area is treated in an industrial treatment plant, these savings can be considerable. Additionally, reducing water consumption may eliminate the need to expand water supply or treatment facilities.



## Typical Process Flow Diagram



How can this method eliminate or reduce pollution?

Use of water nozzles can significantly reduce facility water consumption and wastewater disposal. Implementation of this P2 method will result in the following pollution reductions:

- Dramatic volume reduction of water use.
- Dramatic volume reduction in wastewater discharges to POTWs and/or industrial treatment plants.
- Reduction in energy consumption related to water distribution and treatment.

Which shops can benefit most from this method?

This method can be used at activities that regularly clean automobiles, commercial/recreational vehicles or boats. Typical shops include:

- Motor Pools
- Recreational Facilities
- Car Washes and Auto Hobby Shops
- Construction Equipment Cleaning
- Public Works
- Base Housing

How can this method reduce regulatory compliance concerns?

Use of water nozzles allow Naval facilities to reduce water consumption and improve energy efficiency. Implementation will result in the following regulatory compliance benefits:

- Helps facilities meet water conservation and usage reduction requirements of the Energy Policy and Conservation Act and Executive Order 13123.
- May help facilities comply with Executive Order 13123 (*Greening the Government through Efficient Energy Management*) requiring agencies, by 2010, to reduce energy consumption in Federal buildings by 35% (based on 1985 usage levels).



### Achieving Environmental Compliance Through Pollution Prevention

Every day the Navy faces the challenge of operating and maintaining the fleet while complying with environmental regulations. This burden can be reduced by using pollution prevention technologies and methods to reduce compliance requirements. This fact sheet is one in a series designed to encourage activities to use pollution prevention technologies and methods. The overall goal of this series is to promote sustained environmental compliance at the lowest life-cycle cost.

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